

ABSTRACT

A 3-dimensional computer generated image is generated by subdividing the image into a plurality of rectangular areas. Object data for each rectangular area is loaded into a display list memory (4) until that memory is substantially full. Image data and shading data for each picture element of each rectangular area is derived by an image synthesis processor (6) from the object data. Image data is then stored in a local memory (16) and further object data loaded into the display list memory (4) and replaces the existing contents. Once this has happened, the stored image data and shading data is retrieved and additional image data and shading data derived for each picture element by the image synthesis processor (6) using the new object data and the previously derived image and shading data. When there is no further object data to load to the display list memory the shading data is provided for display for the rectangular areas by a frame buffer 11. The memory may be managed by allocating at least one block of storage from the display list memory to each rectangular area and then storing in that block of memory, data which pertains to surfaces which intersect that rectangular area. A determination is made as to when a predetermined number of blocks have been used for a rectangular area. When this number is reached, the system starts to derive shading data for the rectangular areas, thereby releasing blocks of storage to be allocated to further rectangular areas in the display list memory.